Commissioning and Testing Experience with the Spallation Neutron Source Low Level RF Control System

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The Spallation Neutron Source Low Level RF (LLRF) control system is being deployed in two phases: the initial system that will support testing and beam commissioning of the radiofrequency quadrupole (RFQ) and the drift tube linac (DTL) is based on the Rebuncher LLRF control system developed at LBNL; the final system that will be deployed on the coupled cavity linac, superconducting linac, and energy corrector and spreader cavities is presently under development by the SNS LLRF Team comprising groups from ORNL, LANL, and LBNL. The commissioning of the RFQ will occur in early 2003, whereas commissioning of the first DTL tank is scheduled for late spring of 2003. A parallel effort is the test operation of superconducting cavities in the first production cryomodule, using an initial-type LLRF system at Jefferson Lab in the winter of 2002/3. Testing and commissioning experiences with these various cavity systems will be presented, with emphasis on the performance of the LLRF control units.

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